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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/624,942	07/21/2003	Marco Pappagallo	05986/100K504-US1	7691

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EXAMINER	
KIM, JENNIFER M	
ART UNIT	**PAPER NUMBER**
1617	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/05/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/624,942	PAPPAGALLO, MARCO	
	Examiner	Art Unit	
	Jennifer Kim	1617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 January 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-11* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-11* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

The response filed January 8, 2007 have been received and entered into the application.

Action Summary

The rejection of claims 1-3, 5- 9 and 11 under 35 U.S.C. 102(a) as being anticipated by Geusens et al. (2001) is being maintained for the reasons stated in the previous Office Action.

The rejection of claims 1, 4 and 10 under 35 U.S.C. 103(a) as being unpatentable over Urban et al. (2001) in view of Bader et al. is being maintained for the reasons stated in the previous Office Action.

Response to Arguments

Applicant's arguments filed January 8, 2007 have been fully considered but they are not persuasive. Applicant argues that the specification defines "chronic spinal

mechanical pain" to mean "any back pain lasting more than twelve weeks which is not caused by cancer, or an osteoporotic compression fracture" (specification, page 7, lines 15-16) but the patient disclosed in Geusens has vertebral fractures resulting from glucocorticoids induced osteoporosis and these osteoporotic fractures are compression fractures, and therefore, this does not fall within the definition of chronic spinal mechanical pain. This is not persuasive because while Applicant acts as his or her own lexicographer to specifically define a term of a claim contrary to its ordinary meaning but the claim is not commensurate with the scope of Applicant's invention. It is noted that Applicant's subjects tested in the Example on page 8 of the instant specification suffers from osteoporosis like the patient's treated by Geusens. Applicant argues that the patient disclosed in Geusens has vertebral fractures resulting from glucocorticoid induced osteoporosis and that fracture is compression fractures. Applicant further argues that the patient lost 2 cm in height between the ages of 16 and 18 corresponds to the time the fractures developed that is consistent with multiple vertebral compression taught by Silverman, and Keller et al. and that Figure 1C shows an X-ray of the fractures in which the anterior heights of the fractured vertebrae are less than the posterior heights of the vertebrae in Geusens, page 391 which is consistent with the radiographic appearance of vertebral compression fractures of Wu et al. This is not persuasive because it is clear from Geusens that the patient suffered osteoporosis but it is not conclusive whether that patient has compressive fracture. Applicant's conclusion appears based on the assumption that because the patient lost 2 cm in height between the ages of 16 and 18 corresponds and consistent with multiple vertebral compression

taught by Silverman and Keller et al., however, the patient lost 2 cm in height between the ages of 16 and 18 because he was suffering from osteoporosis as diagnosed by Geusens. Applicant's observation concerning a change in this physiological change cannot be the basis for speculating that Geusens patient was suffering from compression fracture. Applicant's observation that the X-ray of the fractures in which the anterior heights of the fractured vertebras are less than the posterior heights of the vertebrae in Geusens which is consistent with teaching of Wu et al. as a appearance of vertebral compression fractures, is not persuasive because Genuses has review the X-rays and concluded that X-rays showed multiple vertebral fractures and no normal data for vertebral shapes are available for adolescents and therefore, the comparison with calculation in the literature should be interpreted with caution. (page 390, under Discussion). Genuses concluded that Figure 1C shows an X-ray of vertebral deformities shows prominent subchondral sclerosis, but it did not conclude that the anterior heights of the fractures vertebrae are less than the posterior heights of the vertebrae nor the patient suffers from compression fracture as alleged by the Applicant. Thus, the claims fail to patentably distinguish over the state of the art as represented by the cited references.

In view of the above, the Office Action of October 6, 2006 is deemed proper and asserted with full force and effect herein to obviate applicants' claims. The rejections are restated below for the Applicants' convenience.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 1-3, 5- 9 and 11 are rejected under 35 U.S.C. 102(a) as being anticipated by Geusens et al. (2001).

Geusens et al. teach that an 18-year-old boy presented with extreme back pain as the result of multiple vertebral fractures was treated with intermittent intravenous bisphosphonate such as pamidronate. (abstract). Geusens et al. teach that intermittent IV infusions of pamidronate were given at dose of 30mg infusion, 300 mg in total over 9 month. (page 390 right-hand column first sentence originated from left-hand column, bottom). The boy progressively recovered from back pain and is now, at age 20, fully ambulant. (abstract).

The teaching from Geusens et al. that the boy suffered from vertebral fracture back pain encompasses Applicant's limitation of spinal mechanical pain because the term vertebral is referred to spinal column. With respect to the limitation of more than one dose is administered set forth in claim 2 is anticipated by the Geusens et al's teaching that the dose of pamidronate were given over total of 9 month. With respect to

the limitation of single does set forth in claim 11 is anticipated by the Geusens et al's teaching because a single dose of 30mg per infusion was given at a time.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1, 4 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Urban et al. (2001) in view of Bader et al.

Urban et al. teach that the bisphosphonate, zoledronate (30mcg/kg, s.c.) produced a significant anti-allodynic effect in rats. (abstract).

Urban et al. do not teach the intravenous administration of zoledronic acid for the treatment of pain.

Bader et al. report that bisphosphonates and their salts including zoledronate has been used as parenteral preparations for intravenous infusion and injection and preferably made available and utilized. (column 1, lines 14-26).

It would have been obvious to one of ordinary skill in the art to employ zoledronic acid for the treatment of pain in intravenous administration because zoledronic acids is well-known to be administered intravenously and preferably made available and utilized in parenteral infusion and injection formulations as taught by Bader et al. One would have been motivate do employ zoledronic acid in preferred parenteral preparations including intravenous injection in order to provide alternative parenteral preparations next to subcutaneous injectable taught by Urban. There would have been a reasonable expectation of successfully administering zoledronic acid intravenously for the treatment of pain because intravenous infusion and injection formulation of zoledronate are preferably made available to be utilized as reported by Bader et al.

For these reasons the claimed subject matter is deemed to fail to patentably distinguish over the state of the art as represented by the cited references. The claims are therefore properly rejected under 35 U.S.C. 103.

None of the claims are allowed.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer Kim whose telephone number is 571-272-0628. The examiner can normally be reached on Monday through Friday 6:30 am to 3 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sreenivasan Padmanabhan can be reached on 571-272-0629. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Sreenivasan Padmanabhan
Supervisory Primary Examiner
Art Unit 1617

Jmk
March 1, 2007